

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/19/2010 has been entered.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Hyung Sohn at 703-816-4891 on 02/16/2011.

The application amended as follows:

Claims 46 and 47 are cancel.

Claims 1. A method for providing diversity handover, DHO, related instructions to a first DHO tree node that is a part of or is planned to be a part of a DHO connection in a mobile telecommunication network, wherein the DHO functionality is distributed to one

or a plurality of DHO nodes, including a Radio Network Controller (RNC) and its connected Node Bs, in the network, the method comprising:

a DHO node including in a first signaling message one or more transport layer addresses and one or more transport bearer reference parameters in order to direct one or more data flows between the RNC and a mobile station of the DHO connection, and

the DHO node sending the first signaling message to the first DHO tree node, wherein the DHO functionality performed by the first DHO tree node comprises splitting of downlink data flows and combining of uplink data flows,

wherein the first DHO tree node is separate from the RNC, and
wherein the including-step comprises replacing the transport layer address and transport bearer reference parameter of the RNC by transport layer address and transport bearer reference parameter of a DHO tree node that is hierarchically higher than the first DHO tree node in a regular signaling message sent to the first DHO tree node in order to direct a data flow between the first DHO tree node and the higher DHO tree node in a DHO tree node hierarchy.

Claim 20. The method according to claim 19, wherein the implicit information comprises a source IP address and a source User Datagram Protocol (UDP) port retrieved from an IP header and a UDP header of a received uplink packet.

Claim 21. The method according to claim 20, wherein the source IP address is different from an address used for packets received from a hierarchically higher DHO

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tree node and other hierarchically lower DHO tree nodes than the hierarchically lower DHO tree node from which the uplink packet was received.

Claim 26. A non-transitory computer program product directly loadable into the internal memory of a computer within a Diversity Handover node (DHO) including a Radio Network Controller or a Node B, in a mobile telecommunication network, wherein a computer program is provided therein, the computer comprising the software code portions to causing the RNC or node B to performing the method of claim 1.

Claim 27. A non-transitory computer readable medium, in which a readable program is recording therein, the readable program causes a computer, within a Diversity Handover node including a Radio Network Controller or a Node B, in a mobile telecommunication network, to control an execution of the method of claim 1.

Claim 28. A Radio Network Controller, (RNC), for providing diversity handover, (DHO), related instructions to a first DHO tree node that is a part of or is planned to be a part of a DHO connection in a mobile telecommunication network, wherein the DHO functionality is distributed to one or a plurality of DHO nodes the RNC and its connected Node Bs, in said network, the RNC comprising:

means for including in a first signaling message one or more transport layer addresses and one or more transport bearer reference parameters in order to direct one or more data flows between the RNC and a mobile station of the DHO connection, and

means for sending said first signaling message to the first DHO tree node,

Wherein the DHO functionality performed by the first DHO tree node comprises splitting of downlink data flows and combining of uplink data flows,

Wherein the first DHO tree node is separate from RNC, and

wherein the means for including comprises means for replacing the transport layer address and transport bearer reference parameter of an RNC by the transport layer address and transport bearer reference parameter of a DHO tree node that is hierarchically higher than said first DHO tree node in a regular signaling message sent to the first DHO tree node in order to direct a data flow between said first DHO tree node and said higher DHO tree node in the DHO tree node hierarchy.

Claim 45. A Diversity Handover, (DHO), node that is a part of or is planned to be a part of a DHO connection in a mobile telecommunication network, wherein the DHO functionality is distributed to one or a plurality of DHO nodes, such as a Radio Network Controller, (RNC), and its connected Node Bs, in the network, the DHO node comprising:

means for using implicit information in data received from a hierarchically lower DHO tree node to trigger the initiation of DHO functionality for a macro diversity leg towards the hierarchically lower DHO tree node,

wherein said DHO functionality performed by the DHO node comprises splitting downlink data flows from the RNC to the mobile station and combining uplink data flows from the mobile station to the RNC,

wherein the DHO node is separate from the RNC,
wherein the implicit information comprises a source IP address and a source User Datagram Protocol (UDP) port retrieved from an IP header and an UDP header of a received uplink packet, and
wherein the source IP addresses is different from a source IP address used for packets received from a hierarchically higher DHO tree node and other hierarchically lower DHO tree nodes than the hierarchically lower DHO tree node from which uplink packet was received.

Claim 48. The DHO node according to claim 45, further comprising :
mean for using the retrieved source IP address and UDP port as the destination IP address and destination UDP port for the split downlink data flow for the macro diversity leg towards the hierarchically lower DHO tree node.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Claims 1-45 and 48-51 are allowed in view of applicant's Remarks filed on 12/29/2009 and examiner amendment attached hereto.

With regard to claims 1, 26-28 and 45 the closest prior art record of record Kekki et al. (US 2003/0099255 A1) teaches a method for providing diversity handover, DHO, related instructions to a first DHO tree node that is a part of or is planned to be a part of a DHO connection in a mobile telecommunication network, wherein the DHO

functionality is distributed to one or a plurality of DHO nodes, including a Radio Network Controller (RNC) and its connected Node Bs, in the network, the method comprising:

a DHO node including in a first signaling message one or more transport layer addresses and one or more transport bearer reference parameters in order to direct one or more data flows between the RNC and a mobile station of the DHO connection, and the DHO node sending the first signaling message to the first DHO tree node, wherein the DHO functionality performed by the first DHO tree node comprises splitting of downlink data flows and combining of uplink data flows.

Kekki et al. alone or in combination **fails to teach or fairly suggest**

wherein the first DHO tree node is separate from the RNC, and wherein the including-step comprises replacing the transport layer address and transport bearer reference parameter of the RNC by transport layer address and transport bearer reference parameter of a DHO tree node that is hierarchically higher than the first DHO tree node in a regular signaling message sent to the first DHO tree node in order to direct a data flow between the first DHO tree node and the higher DHO tree node in a DHO tree node hierarchy.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIET DOAN whose telephone number is (571)272-7863. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kiet Doan/
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/Charles N. Appiah/
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